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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Applicant: Silva)	Art Unit: 1794
)	
Serial No.: 10/801,270)	Examiner: Kiliman
)	
Filed: March 16, 2004)	HSJ920040054US1
)	
For: SYSTEM AND METHOD FOR CONTROLLING)	December 19, 2007
WRITE TO MINIMIZE ATI AND SQUEEZE)	750 B STREET, Suite 3120
EFFECTS)	San Diego, CA 92101
)	

APPEAL BRIEF

Commissioner of Patents and Trademarks

Dear Sir:

This brief is submitted under 35 U.S.C. §134 and is in accordance with 37 C.F.R. Parts 1, 5, 10, 11, and 41, effective September 13, 2004 and published at 69 Fed. Reg. 155 (August 2004). This brief is further to Appellant's Notice of Appeal filed herewith.

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The real party in interest is Hitachi Global Storage Technologies, Netherlands, B.V.

(2) Related Appeals/Interferences

No other appeals or interferences exist which relate to the present application or appeal.

(3) Status of Claims

Claims 1-24, of which claims 1, 7, 12, and 16 are independent, are pending and twice rejected, and all rejections of all claims are appealed.

(4) Status of Amendments

No amendments are outstanding.

(5) Summary of Claimed Subject Matter

As an initial matter, it is noted that according to the Patent Office, the concise explanations under this section are for Board convenience, and do not supersede what the claims actually state, 69 Fed. Reg. 155 (August 2004), see page 49976. Accordingly, nothing in this Section should be construed as an estoppel that limits the actual claim language.

Claim 1 recites a hard disk drive (HDD) (reference numeral 10, figure 1; page 3, line 17) that has a disk (20, figure 1; page 4, line 8) including plural disk portions (22, figure 1; page 5, line 9). A write element (18, figure 1; page 4, line 8) is juxtaposed with the disk for writing data in at least some disk portions. A

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controller (12, figure 1; page 3, line 18) establishes a write current and/or a kick amplitude (page 5, lines 5-8). The write current and/or kick amplitude (block 28, lines 17-19) is associated with the write element for each head for each disk portion (block 26, figure 2; page 5, line 16) to establish an overwrite signal-to-noise ratio to be within a desired range (page 6, lines 1 and 2).

Claim 7 recites a chip (e.g., 14, figure 1; page 4, lines 12-16) for a hard disk drive (HDD) (10, figure 1; page 3, line 17) that has a disk (20, figure 1; page 4, line 8) including plural disk portions (22, figure 1; page 5, line 9) and a write element (18, figure 1; page 4, line 8). The chip includes logic means (32, figure 3, page 6, lines 11-15) for accessing a table correlating at least one write parameter to head/disk portion combinations. Logic means (38, figure 3; page 7, lines 8 and 9) are provided for establishing, for at least one head/disk portion combination, at least one of: a write current, or a kick amplitude.

Claim 12 recites a chip (e.g., 14, figure 1; page 4, lines 12-16) for a hard disk drive (HDD) (10, figure 1; page 3, line 17) that has a disk (20, figure 1; page 4, line 8) including plural disk portions (22, figure 1; page 5, line 9). The chip has means (block 28, figure 2; page 6, lines 5-10) for storing at least one value for each head for each disk portion which can be written to by the head, with the at least one value representing baseline write current and/or kick amplitude. Means (38, figure 3; page 7, lines 8 and 9) are also provided for using the value to generate a write current for the head.

Claim 16 sets forth a logic element (e.g., 14, figure 1; page 4, lines 12-16) for a hard disk drive (HDD) (10, figure 1; page 3, line 17) that has a disk (20, figure 1; page 4, line 8) including plural disk portions (22, figure 1; page 5, line 9) and a write element (18, figure 1; page 4, line 8). The logic element holds logic including accessing a table (block 28, figure 2; page 6, lines 5-10) correlating write currents and

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kick amplitudes to head/disk portion combinations and establishing, for at least one head/disk portion combination, at least one of: a write current and/or a kick amplitude (38, figure 3; page 7, lines 8 and 9).

(6) Ground of Rejection to be Reviewed on Appeal

All pending claims (1-24) have been rejected under 35 U.S.C. §102 as being anticipated by Chan et al., USPN 6,384,599.

(7) Argument

Anticipation Rejections

All Claims

The rejection alleges that all claims are taught by Chan et al., "summary of the invention, column 3, lines 12-65, column 4, lines 1-48, column 5 bottom and column 6, lines 1-45", which is the sole substantive comment in the entire Office Action.

The present Office Action fails to mention any claim element. The present Office Action fails to point to any particular element in Chan. Accordingly, the present Office Action fails to identify in the written record the correlations being relied on between Chan '599 and the claims being rejected. As a consequence, the rejections fail to demonstrate compliance with MPEP §2131 (to support an anticipation rejection, every claim element must be taught or inherent in a single prior art reference). Compliance with the MPEP is required.

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Chan '599 fails to mention "kick amplitude" or "write current" or any cognizable synonyms thereof. Perforce, then, Chan '599 cannot teach the claims, much less establishing the write current or kick amplitude for each head for each disk portion to establish an overwrite signal-to-noise ratio to be within a desired range as required by, e.g., Claim 1.

It appears to be the point of Chan '599 in the portions identified in the Office Action to generate and display performance data for a drive, see, e.g., Chan col. 2, lines 6-9. Specifically, Chan outputs an indication as to whether a center stripe in a sector has been successfully read, and also as to whether each offset stripe from the center stripe has been successfully read, col. 2, lines 13-18 and explicated in greater detail in the relied-upon portions of columns 4 and 6. Chan does this to allow a person to analyze the effects of offset track writing to consider squeeze effects of offset track writing and thereby diagnose and correct problems with the head, col. 2, lines 40-46. It appears that Chan believes such offset track writing to be due to unnamed "irregularities" which causes "misregistration", col. 3, lines 55-65, apparently implicating head misalignment but *not touching on write current at all*, much less on the present claims.

The comments above apply *mutatis mutandis* to independent Claims 7, 12, and 16.

Dependent Claims 2, 15, 17

The Office Action fails to mention, as do the relied-upon portions of Chan, the limitations of dependent Claims 2, 15, and 17 (establishing both a write current and a kick amplitude) rendering the claims patentable.

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Dependent Claims 3, 9, 18

The Office Action fails to mention, as do the relied-upon portions of Chan, the limitations of dependent Claim 3 (the desired range is approximately -22db to -24 db) and dependent Claims 9 and 18 (kick amplitude and write current establish an overwrite signal-to-noise ratio within a desired range), rendering these claims patentable.

Dependent Claims 4 and 8 and Independent Claims 7 and 16

The Office Action fails to mention, as do the relied-upon portions of Chan, the limitations of dependent Claims 4 and 8 and independent Claims 7 and 16 (accessing a table correlating write current and/or kick amplitude to disk locations), rendering these claims patentable.

Dependent Claims 5, 10, 19

The Office Action fails to mention, as do the relied-upon portions of Chan, the limitations of dependent Claims 5, 10, and 19 (dynamically varying write currents and/or kick amplitudes), rendering these claims patentable.

Dependent Claims 6, 11, 20

The Office Action fails to mention, as do the relied-upon portions of Chan, the limitations of dependent Claims 6, 11, and 20 (the write current and kick amplitudes are varied as a function of sensed temperature), rendering these claims patentable.

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Dependent Claims 13, 15

The comments above regarding temperature variation apply *mutatis mutandis* to dependent Claims 13 and 14.

Dependent Claims 21-24

The Office Action fails to mention, as do the relied-upon portions of Chan, the limitations of dependent Claims 21-24 (the write current and kick amplitudes are varied using an equation having a slope value, with the slope value being a first value when temperature is above a threshold and a second value when temperature is below the threshold), rendering these claims patentable.

Respectfully submitted,



John L. Rogitz
Registration No. 33,549
Attorney of Record
750 B Street, Suite 3120
San Diego, CA 92101
Telephone: (619) 338-8075

JLR:jg

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APPENDIX A - APPEALED CLAIMS

1. A hard disk drive (HDD), comprising:

at least one disk including plural disk portions;

at least one write element juxtaposed with the disk for writing data in at least some disk portions; and

a controller establishing at least one of: a write current, or a kick amplitude, the write current and/or kick amplitude being associated with the write element for each head for each disk portion to establish an overwrite signal-to-noise ratio to be within a desired range.
2. The HDD of Claim 1, wherein the controller establishes both a write current and a kick amplitude for each write element for each portion.
3. The HDD of Claim 1, wherein the desired range is approximately -22db to -24 db.
4. The HDD of Claim 1, wherein the controller accesses a table correlating write current and kick amplitude to head/portion combinations.
5. The HDD of Claim 4, wherein the controller dynamically varies looked-up write currents and kick amplitudes.

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6. The HDD of Claim 5, wherein the write current and kick amplitudes are varied as a function of sensed temperature.

7. A chip for a hard disk drive (HDD) having at least one disk defining plural disk portions and at least one write element for writing data to the disk, comprising:

logic means for accessing a table correlating at least one write parameter to head/disk portion combinations; and

logic means for establishing, for at least one head/disk portion combination, at least one of: a write current, or a kick amplitude.

8. The chip of Claim 7, wherein the table correlates two write parameters to each head/portion combination.

9. The chip of Claim 7, wherein kick amplitude and write current establish an overwrite signal-to-noise ratio within a desired range.

10. The chip of Claim 7, comprising means for dynamically varying looked-up write currents and kick amplitudes.

11. The chip of Claim 7, comprising means for dynamically varying looked-up write currents and kick amplitudes as a function of sensed temperature.

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12. A chip for a HDD including at least one head and at least one disk juxtaposed with the head and defining plural disk portions, comprising:

means for storing at least one value for each head for each disk portion which can be written to by the head, the at least one value representing: baseline write current and/or kick amplitude; and
means for using the value to generate a write current for the head.

13. The chip of Claim 12, wherein the HDD includes at least one temperature sensor, and the controller chip further comprises:

means for varying the value based on a signal from the temperature sensor to establish a temperature-corrected value; and
means for applying a signal characterized by the temperature-corrected value to the head.

14. The chip of Claim 13, wherein the means for storing stores, for each head for each portion which can be operably associated with the head, a kick amplitude value and a baseline write current value.

15. The chip of Claim 14, wherein the means for varying varies both values.

16. A logic element for a hard disk drive (HDD) having at least one disk defining plural disk portions and at least one write element for writing data to the disk, the logic element holding logic embodying method acts comprising:

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accessing a table correlating write currents and kick amplitudes to head/disk portion combinations; and

establishing, for at least one head/disk portion combination, at least one of: a write current and/or a kick amplitude.

17. The logic element of Claim 16, wherein the logic establishes both of a write current and a kick amplitude for each head/portion combination.

18. The logic element of Claim 17, wherein the kick amplitude and write current establish an overwrite signal-to-noise ratio within a desired range.

19. The logic element of Claim 17, wherein the logic comprises dynamically varying looked-up write currents and kick amplitudes.

20. The logic element of Claim 17, wherein the logic comprises means for dynamically varying looked-up write currents and kick amplitudes as a function of sensed temperature.

21. The HDD of Claim 6, wherein the write current and kick amplitudes are varied using an equation having a slope value, the slope value being a first value when temperature is above a threshold, the slope value being a second value when temperature is below the threshold.

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22. The chip of Claim 11, wherein the write current and kick amplitudes are varied using an equation having a slope value, the slope value being a first value when temperature is above a threshold, the slope value being a second value when temperature is below the threshold.

23. The chip of Claim 15, wherein the write current and kick amplitudes are varied using an equation having a slope value, the slope value being a first value when temperature is above a threshold, the slope value being a second value when temperature is below the threshold.

24. The logic element of Claim 20, wherein the write current and kick amplitudes are varied using an equation having a slope value, the slope value being a first value when temperature is above a threshold, the slope value being a second value when temperature is below the threshold.

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APPENDIX B - EVIDENCE

None (this sheet made necessary by 69 Fed. Reg. 155 (August 2004), page 49978.)

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APPENDIX C - RELATED PROCEEDINGS

None (this sheet made necessary by 69 Fed. Reg. 155 (August 2004), page 49978.)

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